Application No. 10/007,175   Customer No. 01933
Response to Office Action

Listing of Claims:

1.   (Currently Amended) An image pick-up method for picking up an image of an object with a camera mounted via a pan head on a moving pedestal and for operating together a real object image of the object taken with the camera and another image, said

5   method comprising the steps of:

setting a reference position on a floor surface on which the moving pedestal moves [[,]] and a reference angle of the moving pedestal;

detecting a moving amount of the moving pedestal from said

10   reference position and a rotation angle thereof of the moving pedestal from said reference angle;

finding a position and an angle of the camera with respect to the object based on the basis of said reference position, said reference angle, said moving amount and said rotation angle of

15   the moving pedestal; and

transmitting data of the position and the angle of the camera with respect to the object [[,]] to a computer for creating an image containing a operating together the real object image of the object taken with the camera and said another image

20   based on the position and the angle of the camera with respect to the object.

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2. (Original) The method according to claim 1, wherein said moving amount of the moving pedestal is obtained by measuring a length of a portion of a wheel of the moving pedestal, which has been brought into contact with the floor surface.

3. (Original) The method according to claim 1, wherein the moving pedestal includes at least three wheels, and said rotation angle is calculated from moving distances of two wheels which are distant in terms of a moving direction.

4. (Currently Amended) The method according to claim 3, wherein said two wheels are selected which are most distant along the moving direction of the wheels of the moving pedestal.

5. (Currently Amended) The method according to claim 1, wherein a first line and a second lines line are formed provided on the floor surface so that they normally cross with each other from to perpendicularly intersect at said reference position, and

5   wherein two first sensors for detecting the first line and one second sensor for detecting the second line are provided on the moving pedestal, and

          wherein said reference position and said reference angle are found based on the basis of said moving amount a position of each

10   of the two first sensors at a time when the two first sensors

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each pass said first line, and ~~said moving amount~~ <u>a position of</u>

<u>the second sensor</u> at a time when said second sensor passes the

second line.

    6.   (Currently Amended) An image pick-up system for picking

up ~~an~~ <u>a real object</u> image of an object <u>to be operated together</u>

<u>with another image, said system</u> comprising:

        a camera unit ~~having a structure in which~~ <u>comprising</u> a

5   camera for picking up an image of an object <u>,</u> ~~is~~ mounted ~~via a~~

    ~~pan head~~ on a moving pedestal <u>via a pan head</u>;

        ~~an operation~~ <u>calculating</u> means for calculating a positional

    relationship between the camera and the object;

        ~~a~~ setting means for setting a reference position on a floor

10   surface on which the moving pedestal moves [[,]] and a reference

    angle of the moving pedestal <u>and for inputting the reference</u>

    <u>position and the reference angle</u> to said ~~operation~~ <u>calculating</u>

    means; and

        ~~a~~ detection means for detecting a moving amount of the

15   moving pedestal from the reference position, and a rotation angle

    ~~thereof~~ <u>of the moving pedestal</u> from the reference angle;

        wherein said ~~operation~~ <u>calculating</u> means calculates ~~out~~ a

    position and an angle of the camera with respect to the object

    <u>based</u> on ~~the basis of~~ the reference position, the reference

20   angle, the moving amount and the rotation angle of the moving

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pedestal, and the calculating means transmits data of the

position and the angle of the camera with respect to the object

[[,]] to a computer for creating an image containing a operating

together the real object image of the object taken with the

25   camera and said another image based on the position and the angle

of the camera with respect to the object.

7.   (Currently Amended) The system according to claim 6,

wherein said setting means includes a reference detection

mechanism for detecting the reference position on the floor

surface on which the moving pedestal moves, and the reference

angle of the moving pedestal.

8.   (Original) The system according to claim 6, wherein said

detection means detects the moving amount of the moving pedestal

by measuring a length of a portion of a wheel of the moving

pedestal, which has been brought into contact with the floor

surface.

9.   (Currently Amended) The system according to claim 6,

wherein the moving pedestal has comprises at least three wheels

and said detection means includes at least three encoders each

for finding detecting a moving distance of a respective one of

the wheels wheel in the movement of the moving pedestal.

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10.   (Currently Amended) The system according to claim 9, wherein the rotation angle is calculated from the moving distance ~~found~~ detected by the encoders ~~provided~~ corresponding to two of the wheels, which are distant with respect to the moving direction.

11.   (Currently Amended) The system according to claim 10, wherein said two wheels ~~are selected which~~ are most distant along the moving direction of the wheels of the moving pedestal.

12.   (Currently Amended) The system according to claim 9, wherein ~~rollers are provided as being brought into~~ the moving pedestal further comprises a roller in contact with each of the wheels ~~, respectively,~~ to be rotated ~~along with the rotation of~~

5   together with the ~~wheels~~ wheel, and
          wherein the moving distance of each of the wheels is ~~found from~~ detected based on the number of ~~rotation~~ rotations of the respective roller and a pulse number counted by ~~said~~ the respective encoder.

13.   (Currently Amended) An image pick-up system for picking up ~~an~~ a real object image of an object to be operated together with another image, comprising:

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a moving pedestal including three wheels;

5   a camera unit ~~having a structure in which~~ <u>comprising</u> a

camera for picking up ~~an~~ <u>the real object</u> image of ~~an~~ <u>the</u> object,

<u>which</u> is mounted via a pan head on said moving pedestal;

~~an operation~~ <u>calculating</u> means for calculating a positional

relationship between the camera and the object;

10   three encoders provided respectively ~~for~~ <u>corresponding to</u>

said three wheels of said moving pedestal;

a plurality of sensors provided on said moving pedestal

[[,]] for detecting a predetermined mark ~~made~~ on a floor surface

on which said moving pedestal moves; and

15   ~~a~~ setting means for setting a reference position on the

floor surface [[,]] and a reference angle of said moving

pedestal, which are ~~found from~~ <u>determined based on</u> detection

values of said plurality of sensors and ~~a~~ pulse numbers counted

by said encoders ~~in the~~ <u>during</u> movement of said moving pedestal,

20   <u>and for inputting the reference position and the reference angle</u>

to said operation means;

<u>detection means for detecting, based on the pulse numbers</u>

<u>counted by said encoders, a moving amount of the moving pedestal</u>

<u>from the reference position, and a rotation angle of the moving</u>

25   <u>pedestal from the reference angle;</u>

wherein said operation means calculates ~~out~~ a position and

an angle of the camera with respect to the object <u>based</u> on ~~the~~

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~~basis of~~ the reference position, the reference angle, ~~the~~ a

moving amount <u>from the reference position</u> and ~~the~~ a rotation

30 angle ~~of said moving pedestal~~ <u>from the reference angle</u>, which are

obtained ~~from~~ <u>based on</u> the pulse numbers counted by said

encoders, and transmits data of the position and the angle of the

camera with respect to the object [[,]] to a computer for

~~creating an image containing a~~ <u>operating together the</u> real object

35 image of the object taken with the camera <u>and said another image</u>

<u>based on the position and the angle of the camera with respect to</u>

<u>the object</u>.

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